# Section 21g Competency Based Education Transcript Pilots

**A Public-Private Partnership between**
**The Michigan Center of Innovation for Education (CIE)**
**Michigan Association of Intermediate School Administrators (MAISA)**
**House Testimony, March 9, 2017**

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**What is the one sustainable innovation that the Michigan Legislature can accelerate today that would move Michigan's K12 education system forward into the 21$^{st}$ Century?**

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# #1    Competency-Based Education

Organization:

**What is Competency-Based Education?**

1. Competency is the capability to apply or use a set of related <u>KNOWLEDGE</u>, <u>SKILLS</u>, and <u>ABILITIES</u> required to successfully perform 'critical work functions' or tasks in a defined work setting.
   (source: Competency Model Clearinghouse, U.S. Department of Commerce)

2. Competency-based education refers to a system where students advance to higher levels of learning when they <u>DEMONSTRATE MASTERY</u> of concepts and skills regardless of time, place, or pace ...
   (source: Foundation for Excellence in Education)

   - <u>PROFICIENCY</u> is a high degree of competence or skill; <u>EXPERTISE</u>.
                                   vs.
   - In K12 education, proficiency means proficiency levels, scales, and <u>CUT SCORES</u> on <u>STANDARDIZED TESTS</u>.

3. Competency-based education addresses five core design elements:
   i. Students advance upon <u>MASTERY</u>.
   ii. Competencies include explicit, measureable, transferable <u>LEARNING OBJECTIVES</u> that empower students.
   iii. <u>ASSESSMENTS ARE MEANINGFUL</u> and a positive learning experience for students.
   iv. Students receive timely, differentiated support based on their <u>INDIVIDUAL LEARNING NEEDS</u>.
   v. Learning outcomes emphasize competencies that include application and creation of <u>KNOWLEDGE</u> along with the development of important <u>SKILLS</u> and <u>DISPOSITIONS</u>. (source: Foundation for Excellence in Education)

# Mike Rowe Interview
http://insider.foxnews.com/amp/article/54635

Competency-Based Education is best understood in terms of giving all students career-ready skills that help them succeed on the job, in the classroom, and in life.

**Priority 1: Michigan After School Partnerships (Sub-awardee)**

**Mary Sutton, Executive Director**
**Michigan Afterschool Partnership**

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### Priority 1: Michigan After- and Out-of-School Partnerships

1. Establish an articulation framework for the demonstration of student competencies and skills that allows students to earn digital badges (i.e., credentials, micro-credentials, credits, and micro-credits) that align with the Michigan Merit (MM) academic standards and competencies, focusing on **Michigan First Robotics** and **WSU-C2 Pipeline**.

2. Develop a marketplace and Out-of-School Time accreditation process to allow afterschool partners to provide extended day learning opportunities for all students.

   ✓ Project expenditures                                      $25,000 of $50,000
   ✓ Pupils served                                   131 current / 4,050 possible
   ✓ Feasibility for expanding the project statewide            3 Years

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## TIME SPENT LEARNING MATTERS
### Learning Happens Everywhere
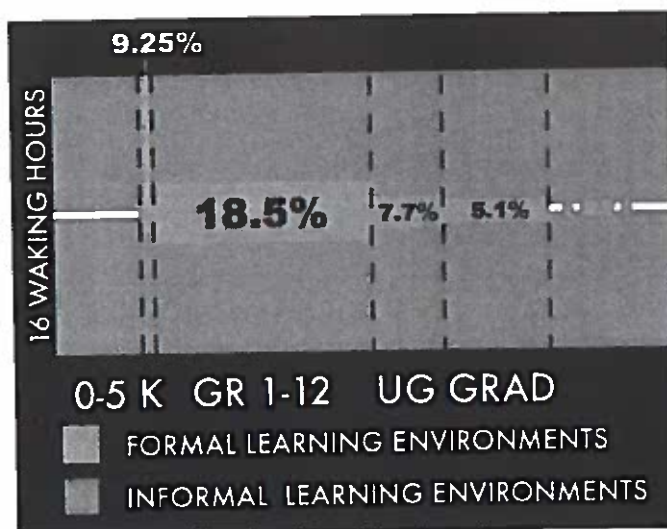
✓ In Michigan, an average school year is <u>180 days</u>. An average school day is <u>7 hours.</u>

✓ Only 21.6% of a child's waking hours are spent in school.

**What our project is accomplishing:**

- Marketplace Creation

- Closing the Skills Gap

- STEM in Afterschool

- Pipelines to Careers

- Recognition of Competencies – Credentials, Micro-credentials & Badges

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### Priority 2: In-District Competency-Based Education

1. Organize all learning within two traditional school districts into a Competency-Based Educational system. This can only be effective if it is applied across all standards and expectations, ages, grades, and disciplines.
   - Berrien Springs Public School District
   - Centerline Public School District
   - EdTech Specialists (supporting)

2. Create a flexible system for instruction and assessment, allowing flexible pacing based on student progress to mastery of competencies and Develop personalized, alternative pathways for assessment that allows students to demonstrate competencies and allows students "voice and choice."

   ✓ Project expenditures        $25,000 of $50,000
   ✓ Pupils served        5,832
   ✓ Feasibility for expanding the project statewide    6 Years*
        *Project estimates of sustained, second-order change.

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## Priority 3: West Michigan Talent Development Pipeline

1. Work with Talent 2025 (http://www.Talent2025.org) to identify key employability skills required by West Michigan's Top 110 employers.
   - Talent 2025
   - Kent Intermediate School District
   - Muskegon Intermediate School District
   - Ottawa Intermediate School District
   - Kent Innovation High School
   - Kenowa Hills Public School District
   - Northview Public Schools District

2. Identify best practices for incorporating employability skills into comprehensive High School curriculum (see attached definitions, page 16).

3. Develop internship, externship, and career exploration opportunities for all students to tie workforce readiness efforts to teaching and learning.

   - ✓ Project expenditures   $25,000 of $50,000
   - ✓ Pupils served   10,400 in participating districts
       114,500 in region
   - ✓ Feasibility for expanding the project statewide   3 Years

**Other Partners working on the feasibility of scaling Competency Based Education in Michigan:**

- Michigan Association of Intermediate School Administrators (MAISA)
- Michigan Elementary and Middle Schools Principals Association (MEMSPA)
- Michigan Department of Education (MDE)
- Basis Policy Research
- Michigan Data Hubs
- The Foundation for Excellence in Education
- KnowledgeWorks
- Ed-Fi Alliance
- IMS Global
- Public Sector Consulting Group
- Parchment

## What problems does the overall project address?

➢ Problem 1: education software <u>DOES NOT</u> track by competency. Our transcript system, gradebooks, and student information systems meet <u>CURRENT MARKET DEMAND</u>. Unfortunately, K12 innovators only discover the software issues after they are <u>SEVERAL YEARS</u> into the shift to CBE.

➢ Problem 2: the current, <u>TIME-BASED</u> education system relies heavily on <u>STATE STANDARDIZED ASSESSMENTS</u>, which are not <u>STUDENT-CENTERED</u>. Competency-Based Education inherently is and there are <u>LIMITED INCENTIVES</u>, and numerous <u>DISINCENTIVES</u>, for providing <u>STUDENT-LEVEL CHOICE</u>.

➢ Problem 3: There are <u>FEW MODELS</u> for effectively scaling Competency Based Education. Whole school reforms tend to be <u>TOO COMPLEX</u> to scale statewide. <u>SCALING</u> excellence requires smart subtraction (or <u>DEREGULATION</u>) versus mindless addition. (Source: Scaling Excellence)

## What are we proposing?

Through this project, the Center of Innovation has identified the following five opportunities to scale Competency Based Education in Michigan over the next three years:

1. **Talent Transcript**

   - Transform the high school transcript by making it meaningful to students, employers, and other stakeholders in addition to college and university admission officials. (See attached examples.)

2. **Career Ready Competencies**

   - Establish a marketplace for students to select in-school, afterschool, and out-of-school learning opportunities acquiring those competencies—aka, knowledge, skills, and experience—they need for lifelong success in career, citizenship, and life.

## 3. Top 10 Early Literacy Challenge

- Leverage the urgency, focus, and funding on early literacy to create a transparent competency pathway from kindergarten to third grade reading readiness for every student and incentivize schools to engage parents, teachers, and community stakeholders in the effort to become a Top 10 state.

- Demonstrate the power of CBE to transform public education.

## 4. Academic Innovation Standards Framework

- Develop an innovation framework for Michigan's academic standards that relieves the frustration with Common Core by focusing teaching and learning based on "big ideas," a.k.a., competency. (See attached "Big Idea.")

## 5. Student Progress Assessments

- Provide a pathway for districts to deploy alternative student progress assessments (i.e., NWEA MAP) and provide those assessment results to MDE for accountability, resulting a significant reduction in state-issued, standardized assessments.

**Scaling Excellence**

Here is our model for scaling these initiatives over the next three years:

| 2017-2018 | Year 1 | PROTOTYPE: proof model with approx. 50 schools |
| 2018-2019 | Year 2 | EXPAND: expand program to 20% of districts |
| 2019-2020 | Year 3 | SCALE: open opt-in program to entire state |

How do we intend to accomplish these priorities?

- Use 5,4,3,2,1, a proven methodology for scaling statewide projects that moved 96% Michigan to online assessments in 4 years on only 0.4% of the budget:

  5. Establish a baseline and identify the incentives needed to create statewide momentum.

  4. Engage a group of stakeholders to provide shared services to support schools in adopting CBE practices.

  3. Develop collective capacity at the teacher, school, and district level to lead change and implement program.

  2. Provide common resources and assessments for schools to use when implementing

  1. Create a compelling vision for the program the meets multiple stakeholders' goals and objectives.

| Budget Category | Est. Current Budget Amount | Current Spend (As of 2/28/17) |
|---|---|---|
| Sub-awards<br>• Priority 1 – $50,000<br>• Priority 2 – $50,000<br>• Priority 2 – $50,000 | $150,000.00 | $75,000.00 |
| Purchased Services<br>• MAISA – $30,000<br>• Feasibility – $70,000 | $100,000.00 | $45,000.00 |
| Contracted Services<br>• Project Director – $54,000<br>• Project Mgr – $36,000<br>• Tech Lead – $36,000 | $126,000.00 | 52,500.00 |
| Other Direct Expenses<br>• Meetings<br>• Travel<br>• Supplies | $24,000.00 | $3,022.00 |
| Sub-Total: | $400,000.00 | $175,522.00 |
| Below The Line Costs: | | |
| Project Reserve (5%)<br>• Held in reserve to prevent project from running over budget.<br>• The CIE board has the authority to allocate the project reserve to avoid the overall project from going over-budget. The reserve is part of the funds available after April 1, 2017. | $25,000.00 | $0.00 |
| Indirect Costs (15%)<br>Michigan Center of Innovation in Education | $75,000.00 | $37,500.00 |
| Total Project Costs<br>• $250,000 received December 2016<br>• Remaining $250,000 scheduled for April 2017 | $500,000.00 | $213,022.00 |

## 1. Talent Transcript, Example 1



# *Traditional Look, Enhanced with embedded links*

1. **Talent Transcript, Example 2**
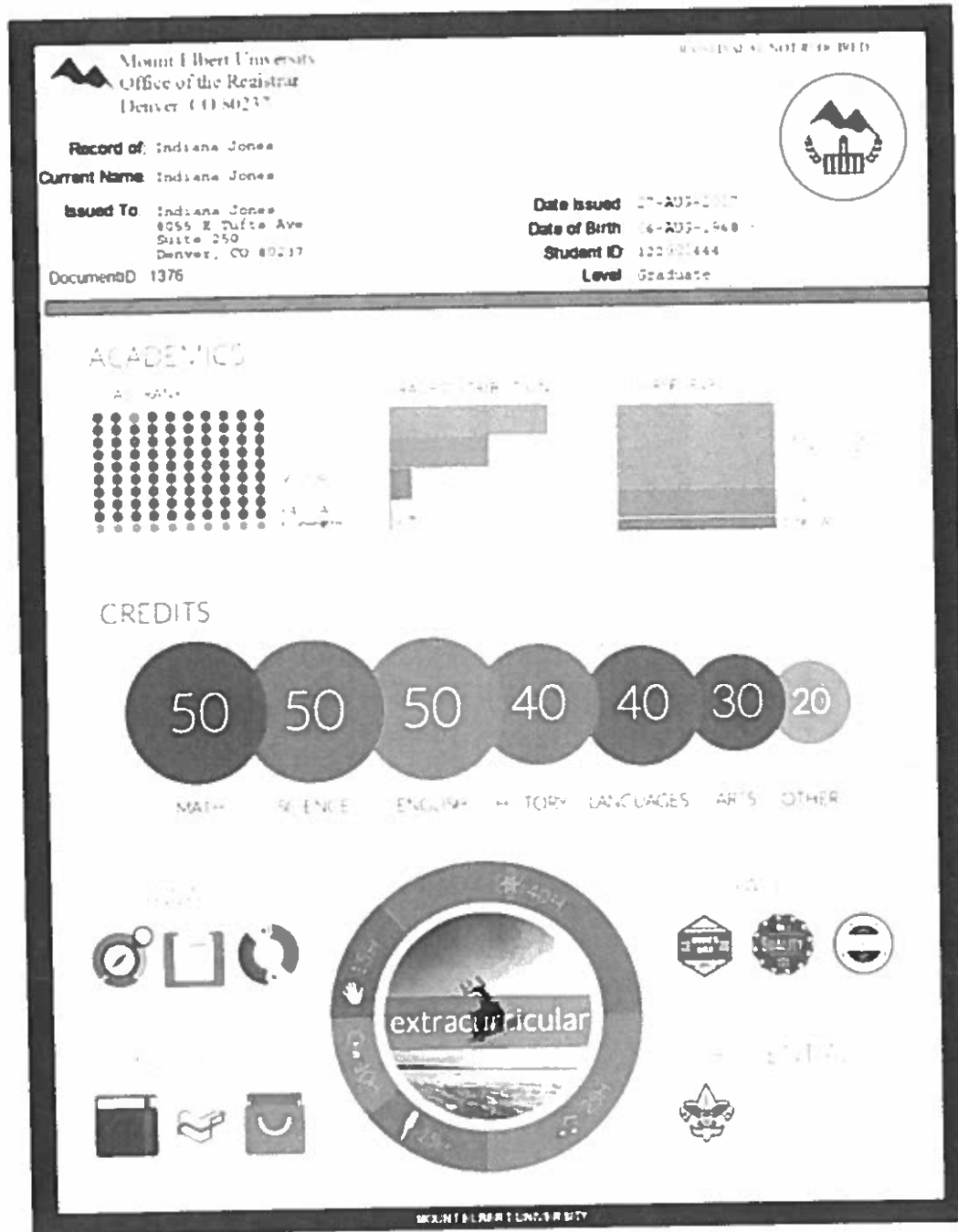


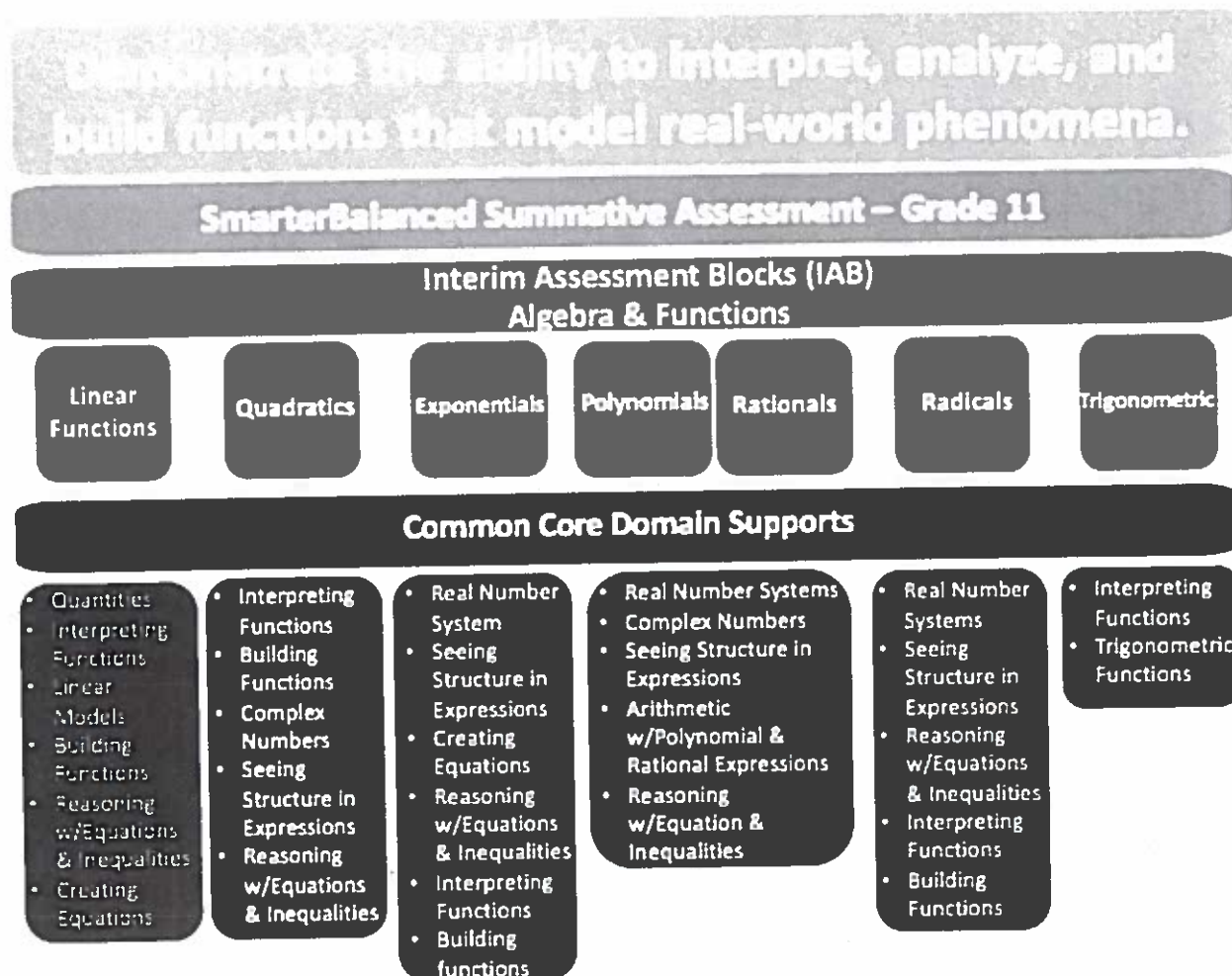*Reimagined, Audience-specific rendering*

## 1. Talent Transcript, Example 3
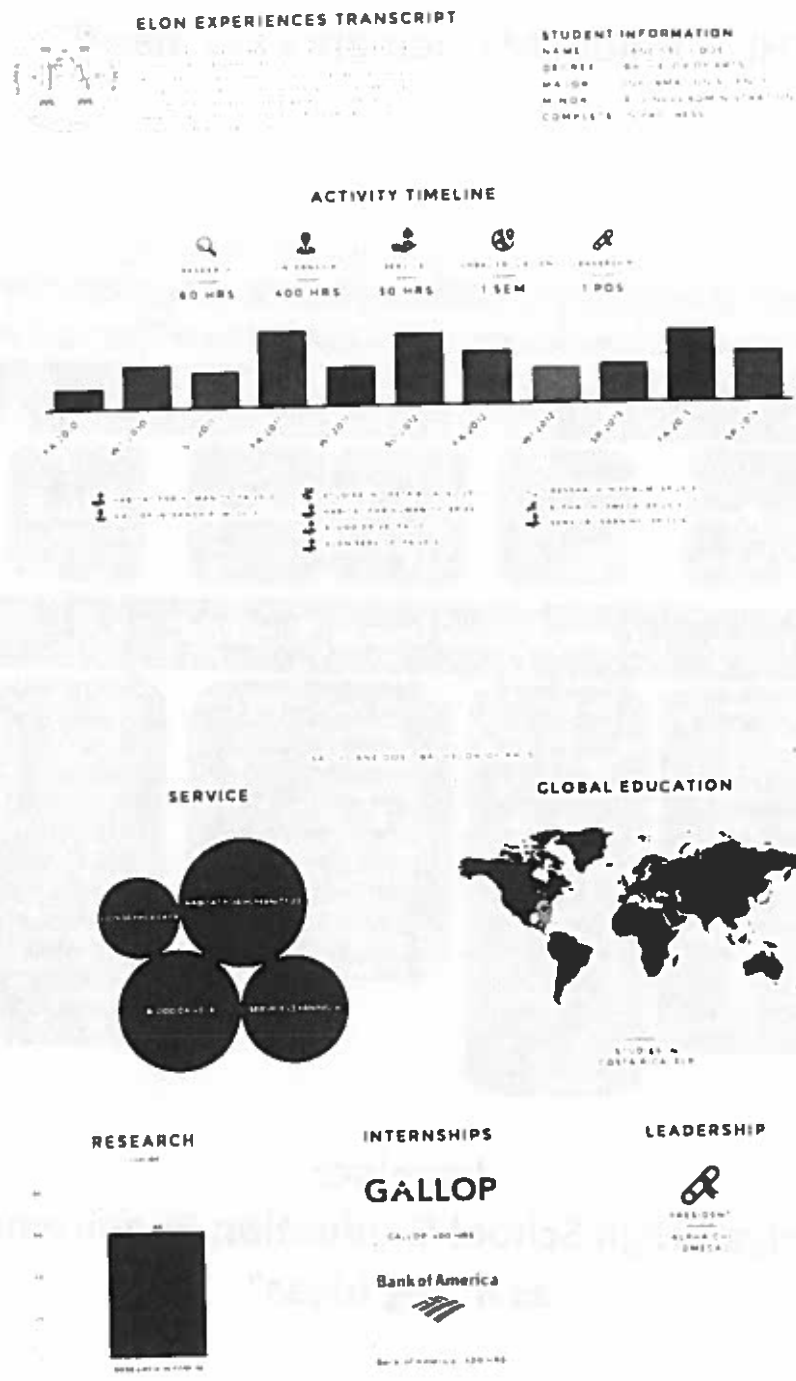


*Visual Experiential Transcript*

**4. Academic Innovation Standards Framework**

# High School Mathematics Big Idea #1

Demonstrate the ability to interpret, analyze, and build functions that model real-world phenomena.

**SmarterBalanced Summative Assessment – Grade 11**

**Interim Assessment Blocks (IAB)**
**Algebra & Functions**

| Linear Functions | Quadratics | Exponentials | Polynomials | Rationals | Radicals | Trigonometric |

**Common Core Domain Supports**

| | | | | | |
|---|---|---|---|---|---|
| • Quantities<br>• Interpreting Functions<br>• Linear Models<br>• Building Functions<br>• Reasoning w/Equations & Inequalities<br>• Creating Equations | • Interpreting Functions<br>• Building Functions<br>• Complex Numbers<br>• Seeing Structure in Expressions<br>• Reasoning w/Equations & Inequalities | • Real Number System<br>• Seeing Structure in Expressions<br>• Creating Equations<br>• Reasoning w/Equations & Inequalities<br>• Interpreting Functions<br>• Building functions | • Real Number Systems<br>• Complex Numbers<br>• Seeing Structure in Expressions<br>• Arithmetic w/Polynomial & Rational Expressions<br>• Reasoning w/Equation & Inequalities | • Real Number Systems<br>• Seeing Structure in Expressions<br>• Reasoning w/Equations & Inequalities<br>• Interpreting Functions<br>• Building Functions | • Interpreting Functions<br>• Trigonometric Functions |

# Imagine:
# Michigan High School Graduation Requirements
# as 8 "Big Ideas"

# Math Competencies Aligned to
# Carnegie Units/Traditional Courses (MDE)

| Big Ideas | Competencies | Carnegie Units/Courses |
|---|---|---|
| Demonstrate the ability to interpret, analyze, and build functions that model real-world phenomena | • Interpret the structure of expressions<br>• Write expressions in equivalent forms to solve problems. | Algebra 1 |
| | • Understand solving equations as a process of reasoning and explain the reasoning<br>• Represent and solve equations and inequalities graphically<br>• Create equations that describe numbers or relationships<br>• Solve equations and inequalities in one variable<br>• Perform arithmetic operations on polynomials | Algebra 1<br>    Linear Equations and Inequalities<br>    Quadratic Equations and Inequalities<br>Algebra 2<br>    Exponential Equations and Inequalities<br>    Rational Equations and Inequalities<br>Functions and Statistics<br>Statistics<br>Technical Math<br>Business Math |
| | • Understand the concept of function and use function notation<br>• Analyze functions using different representations<br>• Build a function that models a relationship between two quantities<br>• Interpret functions that arise in applications in terms of a context | Algebra 1<br>    Linear Functions<br>    Quadratic Functions<br>Algebra 2<br>    Exponential Functions<br>    Rational Functions<br>    Trigonometric Functions<br>Trigonometry<br>Functions and Statistics<br>Statistics<br>Technical Math<br>Business Math |

| | | |
|---|---|---|
| Demonstrate the ability to apply algebraic models (functional relationships) to express geometric relationships | • Define trigonometric ratios and solve problems involving right triangles | <u>Algebra 1</u><br><u>Algebra 2</u><br><u>Geometry</u><br><u>Trigonometry</u><br><u>Technical Math</u> |
| Apply statistical and probability concepts to analyze and evaluate potential decisions and strategies | • Summarize, represent, and interpret data on a single count or measurement variable | <u>Functions and Statistics</u><br><u>Statistics</u> |

# Talent 2025 – Working Definitions of Employability Skills

**Interview Checklist (Draft based on Metrics Reporting, Inc. JOFI Framework)**   Rev: 2016-11-30

| New Name | Group | Competency Family | Competency Family Definition |
|---|---|---|---|
| | **Foundational Employability Skills** | | |
| | Communication Verbal | Listening | Listening to others to receive verbal information. |
| | Communication Verbal | Speaking | Speaking to others to convey verbal information. |
| | Communication Written | Reading | Reading documents, charts, graphs, tables, forms, prose, and continuous texts. |
| | Communication Written | Writing | Writing to convey or document written information. |
| | Reasoning and Math | Reasoning | Logical thinking that influences the use of information in problem solving |
| | Reasoning and Math | Math | Quantitative thinking and use of mathematical methods. |
| | Information | Information Skills | Obtaining, processing, analyzing, and documenting information. |
| | Critical Thinking | Judgment & Decision Making | Critical thinking, problem solving, judgment and decision making |
| | Drive | Achievement Orientation | Personal goal setting, trying to succeed at those goals, and striving to be competent in own work. |
| | Agreeableness | Interpersonal Orientation | Being pleasant, cooperative, sensitive to others, easy to get a long with, and having a preference for associating with other organizational members. |
| | Emotional Stability | Adjustment | Maturity, poise, flexibility, and restraint to cope with pressure, stress, criticism, setbacks, personal and work-related problems. |
| | Orderliness | Conscientiousness | Dependability, commitment to doing the job correctly and carefully, and being trustworthy, accountable, and attentive to details. |
| | **Basic Employability Characteristics** | | |
| | Physical | Vision, Strength, Endurance, etc. | Physical abilities related to job performance (color vision for airline pilots, etc.) |
| | Drugs | Drug Free | Drug free and able to pass a drug screen. |
| | Law Abiding | Clean Criminal Record | No criminal record that prohibits employment (some health care jobs require state approval) |